



Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application. Claim 1 was amended to incorporate the limitations of claim 2. Claim 2 was cancelled. Claims 26-49 are new. Support for the new claims is found at page 4, line 6; page 5, line 1 and the Examples. No new matter has been added.

Listing of Claims:

1. (Currently Amended) A process of treating internal combustion engine exhaust gas containing O₂, NO_x, unburnt hydrocarbon ("HC"), CO and soot, comprising:]
- i. catalytically oxidizing a substantial part of the HC;
 - ii. catalytically treating the product of step i to oxidize NO to NO₂;
 - iii. collecting soot; and
 - iv. combusting the collected soot by reaction with the NO₂ and possibly any O₂ left over after steps i and ii.
2. (Cancelled)
3. (Previously Presented) Process according to claim 1 carried out over:
- i. a first catalyst adapted to be fed with engine exhaust gas and effective to promote oxidation of HC therein;
 - ii. a second catalyst adapted to be fed with the product of i and effective to promote oxidation of NO to NO₂;
 - iii. a filter effective to collect soot and to retain it until combusted by said NO₂ and any O₂ left over after catalyst i and ii;
4. (Original) Process according to claim 3 in which the catalysts are honeycomb-supported.
5. (Original) Process according to claim 4 in which the cell density of the honeycomb is in the range 100-900 per square inch.
6. (Previously Presented) Process according to claim 1 in which the gas leaving step/catalyst i undergoes cooling and then enters step/catalyst ii.
7. (Original) Process according to claim 6 in which the first oxidation is carried out close to the source of exhaust gas, whereby to obtain a maximum convenient operating temperature and reaction rate.

1 8. (Previously Presented) Process according to claim 6 in
2 which the gas leaving step/catalyst i undergoes cooling and then enters
3 step/catalyst ii.

1 9. (Previously Presented) Process according to claim 6,
2 further comprising providing an increased amount of combustible upstream of
3 a first catalyst for effecting step i for increasing the temperature at which step
4 i operates.

5 10. (Original) Process according to claim 9 in which said
6 combustible is provided by modifying engine settings to pass more HC and/or
7 generate more CO.

1 11. (Previously Presented) Process according to claim 6 in
2 which a first catalyst for effecting step i has a very low light-off temperature
3 for HC and CO oxidation.

1 12. (Previously Presented) Process according to claim 1,
2 wherein the HC is absorbed on the soot.

On 1 13. (Previously Presented) Process according to claim 1,
2 further comprising removing NOx downstream of soot combustion.

1 14. (Previously Presented) Process according to claim 13
2 wherein removing NOx uses a regenerable NOx absorber downstream of the
3 collecting trap.

1 15. (Original) Process according to claim 14 including
2 catalytic NOx-removal downstream of the NOx absorber.

1 16. (Previously Presented) System for treating internal
2 combustion engine gas containing O₂ NOx, unburnt hydrocarbon ("HC"), CO
3 and soot, comprising:

4 i. a first catalyst to receive engine exhaust and effective to
5 promote oxidation of HC therein;

6 ii. a second catalyst receiving the product of the first
7 catalyst and effective to promote oxidation of NO to NO₂; and

8 iii. a filter effective to collect soot and to retain it until
9 combusted by reaction with said NO₂ and, depending on conditions, any O₂
10 left over after the first catalyst.

1 17. (Original) System according to claim 16 in which the
2 catalysts are honeycomb-supported.

1 18. (Original) System according to claim 17 in which the
2 cell density of the honeycomb is in the range 100-900 per square inch.

1 19. (Previously Presented) A diesel engine in combination
2 with a system according to claim 16 connected to its exhaust.

1 20. (Original) An engine according to claim 19 which is one
2 designed for light duty applications.

1 21. (Original) An engine according to claim 20 which is of
2 the turbo-charged direct injection type.

1 22. (Original) An engine combination according to claim 19,
2 which is a heavy duty engine.

1 23. (Original) An engine combination according to claim 22,
2 wherein the first catalyst is positioned close to the second catalyst.

1 24. (Original) An engine combination according to claim 23,
2 wherein the first catalyst and the second catalyst are at opposite ends of a
3 single catalyst monolith.

1 25. (Previously Presented) Process according to claim 1
2 wherein step i further comprises oxidizing some NO to NO₂.

Al 1 26. (New) A process according to claim 1, wherein the first
2 catalyst comprises at least one supported platinum group metal (PGM).

1 27. (New) A process according to claim 26, wherein the at
2 least one supported PGM is selected from the group consisting of platinum,
3 palladium and rhodium.

1 28. (New) A process according to claim 27, wherein the at
2 least one PGM is platinum and palladium.

1 29. (New) A process according to claim 27, wherein the
2 support is selected from the group consisting of alumina, ceria and alumina
3 and ceria.

1 30. (New) A process according to claim 28, wherein the
2 support is selected from the group consisting of alumina, ceria and alumina
3 and ceria.

1 31. (New) A process according to claim 27 comprising a
2 first layer comprising platinum-catalyzed alumina and a second layer
3 comprising ceria overlying the first layer.

1 32. (New) A process according to claim 27, comprising from
2 10-150g/ft³ platinum.

1 33. (New) A process according to claim 1, wherein the
2 second catalyst comprises at least one supported platinum group metal
3 (PGM).

1 34. (New) A process according to claim 33, wherein the at
2 least one supported PGM is selected from the group consisting of platinum,
3 palladium and rhodium.

1 35. (New) A process according to claim 34, wherein the at
2 least one PGM is platinum.

1 36. (New) A process according to claim 35, wherein the
2 support is alumina.

1 → 37. (New) A process according to claim 35, comprising from
2 10-150g/ft³ platinum.

1 38. (New) A system according to claim 16, wherein the first
2 catalyst comprises at least one supported platinum group metal (PGM).

1 39. (New) A system according to claim 38, wherein the at
2 least one supported PGM is selected from the group consisting of platinum,
3 palladium and rhodium.

1 40. (New) A system according to claim 39, wherein the at
2 least one PGM is platinum and palladium.

1 41. (New) A system according to claim 39, wherein the
2 support is selected from the group consisting of alumina, ceria and alumina
3 and ceria.

21 1 42. (New) A system according to claim 40, wherein the
2 support is selected from the group consisting of alumina, ceria and alumina
3 and ceria.

1 43. (New) A system according to claim 39 comprising a first
2 layer comprising platinum-catalyzed alumina and a second layer comprising
3 ceria overlying the first layer.

1 → 44. (New) A system according to claim 39, comprising from
2 10-150g/ft³ platinum.

1 45. (New) A system according to claim 16, wherein the
2 second catalyst comprises at least one supported platinum group metal
3 (PGM).

1 46. (New) A system according to claim 45, wherein the at
2 least one supported PGM is selected from the group consisting of platinum,
3 palladium and rhodium.

1 47. (New) A system according to claim 46, wherein the at
2 least one PGM is platinum.

1 48. (New) A system according to claim 47, wherein the
2 support is alumina.

1 49. (New) A system according to claim 47, comprising from
2 10-150g/ft³ platinum.